

with var. *mollis*. A new form of *I. montana*, forma *rotundifolia*, is proposed. Species limits are sometimes difficult to determine because of clines of gradation which are present between some of the species and varieties.

The study of this whole genus, in Tennessee, is now at a point where the tools of cyto-taxonomy can probably be used to advantage. With the use of such tools as these, the student should be able to arrive at solutions resolving the problems of the inter- and intra-relationships of the various species. Since the problems involved in each genus of plants are unique, so are their solutions. It is quite possible that taxonomic methods not yet used must be developed in order to understand *Ilex* satisfactorily.

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EPIPACTIS HELLEBORINE (L.) CRANTZ IN
MICHIGAN, AND ITS GENERAL RANGE
IN NORTH AMERICA

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IN 1933, Dr. Homer D. House published an interesting account in *Torreyia* (*Torreyia* 33: 133–135. 1933) concerning the spread in New York State of the orchid then known as *Serapias Helleborine* L. He showed that there had been a very considerable westward extension of its range in New York during a period of 54 years. Indeed, this adventive from the Old World is a rather exceptional plant among orchids in North America, since its biological behavior suggests an aggressiveness not commonly associated with temperate members of the Orchidaceae.

On August 16, 1940, a small colony of this orchid was discovered by Giles in moist, alluvial soil along the Red Cedar River not far from the well travelled entrance to one of the woodlots on the campus of Michigan State College in East Lansing. The colony has since been depleted because of cordwood piled upon the area during the winter and spring of 1947–1948. Moreover, *Epipactis Helleborine* competes here with a tangle of *Cynachum nigrum* (L.) Pers. under the shade of *Ptelea trifoliata* L.

Yet, despite the active competition of the other plants mentioned, and the alteration of the habitat provided by the piles of cordwood, the orchids still survive, though in lesser numbers. From all the evidence available, it seems certain that the species has been relatively recent in its arrival in East Lansing, since the late Dr. W. J. Beal, a keen student of the flora of Michigan, would have quickly observed it. So far as the writers can ascertain, this is the first record of the natural occurrence of this orchid in Michigan. There is no evidence to suggest that its occurrence in East Lansing is anything other than spontaneous.

Although this is the first report of the spontaneous occurrence of *Epipactis Helleborine* in the state, it is not the only account of its appearance in Michigan. In 1933, Dr. A. M. Fuller, Curator of the Milwaukee (Wisconsin) Public Museum, published a study of the orchids of Wisconsin in the course of which mention was made of the introduction of *Epipactis Helleborine* to Michigan. (Studies on the Flora of Wisconsin, Part I: The Orchids. Publ. Museum Milwaukee xiv (No. 1): 109. 1933.) A few years ago, Dr. Fuller kindly supplied the senior author with the interesting details of the first occurrence of the plant in Michigan. The following paragraphs, quoted from Dr. Fuller's letter, indicate the origin of the first plants of *Epipactis Helleborine* in the state:

"Mr. Ralph Ballard of Niles, Michigan, gave me the record for this plant growing at Niles, Michigan. The following paragraphs are excerpted from his letter written to me in 1931 or 1932:

"I cannot give the exact date, but it was about 1895, I think, that one of the members of the Gray Memorial Chapter of the Agassiz Association of which I was a member sent me a plant or two and some seed from Buffalo, New York. As I remember it, Miss Mathilde Schlegel, who sent the plants said the location near Buffalo where she found it was the only place in the United States where it was known to grow.

"The plants were planted in a ravine near the St. Joe River, but I think they failed to grow. Some of the seed I sowed in a little ravine on our own farm, but I failed to find any plants and, other things claiming my attention, the matter was forgotten until 1919, when we found several plants growing by the roadside in front of our house. A search in the ravine located several plants, and since then they have increased to about a hundred plants in the ravine . . .

"The plant seems to like rich clay soil and those growing by the roadside were particularly strong and vigorous."

It seems obvious that the plants eventually found by Mr. Ballard near Niles developed from the original introductions made by him in the vicinity; yet it is much less certain, though not impossible, that this colony in southwestern Michigan gave rise to the group found in East Lansing. Although Niles is

approximately 100 miles in an air-line distance from East Lansing, the prevailing southwesterly winds might have accounted for its establishment here, by transporting the light seeds. What other factors are involved in the ecesis of the orchid here, it is not possible at present to state completely. However, as Dr. House has pointed out in his paper (l. c.) an alkaline soil was found correlated with the occurrence of the plants in New York. In the East Lansing locality, the soil reaction is approximately neutral. Detailed studies would doubtless show that other factors are involved.

As to the distribution of this orchid in North America, I am indebted to the late Professor M. L. Fernald and to Dr. Donovan S. Correll for supplying me very generously with the necessary geographic data. Accordingly, *Epipactis Helleborine* is now known from the following states or provinces:

Quebec	Connecticut	Ontario	Indiana
Vermont	New York	Michigan	Missouri
New Hampshire	Pennsylvania	Wisconsin	Montana
Massachusetts	District of Columbia		

The record from Montana, according to Dr. Correll,¹ is probably that of a cultivated plant. The record from Indiana is that reported by Mr. Charles C. Deam (Flora of Indiana, p. 345 (1940)).

These facts suggest that this orchid may be reported from other adjacent mid-western states within the next few years.

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ON THE NOMENCLATURE OF *LUZULA SALTUENSIS*.—The recently developed interest in certain cytological peculiarities, including the diffuse centromere, of species of *Luzula* (Juncaceae) necessitates a critical and accurate appraisal of the taxonomy and nomenclature of the species under investigation. One of the two dozen North American species, *Luzula saltuensis* was clearly distinguished and described by M. L. Fernald in 1903 from

¹ In personal correspondence.